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RAW SEQUENCE LISTING

DATE: 01/18/2002

PATENT APPLICATION: US/10/024,686

TIME: 09:16:35

Input Set : N:\Crf3\RULE60\10024686.raw Output Set: N:\CRF3\01182002\J024686.raw

SEQUENCE LISTING

```
(1) GENERAL INFORMATION:
            (i) APPLICANT: Tsien, Roger Y.
                           Heim, Roger
     6
           (ii) TITLE OF INVENTION: MODIFIED GREEN FLUORESCENT PROTEINS
     8
          (iii) NUMBER OF SEQUENCES: 5
    10
           (iv) CORRESPONDENCE ADDRESS:
    12
                  (A) ADDRESSEE: Fish & Richardson P.C.
    13
                  (B) STREET: 4225 Executive Square, Suite 1400
    14
                  (C) CITY: La Jolla
    15
                                                            ENTERED
                  (D) STATE: CA
    16
                  (E) COUNTRY: USA
    17
                  (F) ZIP: 92037
    18
             (V) COMPUTER READABLE FORM:
    20
                  (A) MEDIUM TYPE: Diskette
    21
                  (B) COMPUTER: IBM Compatible
    22
                  (C) OPERATING SYSTEM: Windiws95
                  (D) SOFTWARE: FastSEQ for Windows Version 2.0
     23
     24
            (vi) CURRENT APPLICATION DATA:
     26
                  (A) APPLICATION NUMBER: US/10/024,686
C--> 27
                  (B) FILING DATE: 17-Dec-2001
C--> 28
           (vii) PRIOR APPLICATION DATA:
     30
                  (A) APPLICATION NUMBER: 09/057,995
     32
                  (B) FILING DATE:
     33
                  (A) APPLICATION NUMBER: 08/727,452
     35
                  (B) FILING DATE: 10-OCT-1996
     36
                  (A) APPLICATION NUMBER: US95/14692
     38
                  (B) FILING DATE: 13-NOV-1995
     39
                  (A) APPLICATION NUMBER: 08/337,915
     41
                   (B) FILING DATE: 10-NOV-1994
     42
          (viii) ATTORNEY/AGENT INFORMATION:
     44
                   (A) NAME: Haile, Lisa A.
     45
                   (B) REGISTRATION NUMBER: 38,347
     46
                   (C) REFERENCE/DOCKET NUMBER: 07257/032002
     47
             (ix) TELECOMMUNICATION INFORMATION:
     49
                   (A) TELEPHONE: 619/678-5070
     50
                   (B) TELEFAX: 619/678-5099
     51
     54 (2) INFORMATION FOR SEQ ID NO: 1:
              (i) SEQUENCE CHARACTERISTICS:
                   (A) LENGTH: 716 base pairs
      57
                   (B) TYPE: nucleic acid
      58
                   (C) STRANDEDNESS: double
      59
                   (D) TOPOLOGY: linear
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60

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Input Set : N:\Crf3\RULE60\10024686.raw
Output Set: N:\CRF3\01182002\J024686.raw

A A MOTECHTIE TYPE: CDNA			
62 (ii) MOLECULE TYPE: CDNA 64 (ix) FEATURE:			
64 (ix) FEATURE: 65 (A) NAME/KEY: Coding Sequence			
(B) LOCATION: 1715			
	48		
69 (xi) SEQUENCE DESCRIPTION: SEQ ID NO. 1. 71 ATG AGT AAA GGA GAA GAA CTT TTC ACT GGA GTT GTC CCA ATT CTT GTT 71 ATG AGT AAA GGA GAA GAA CTT TTC ACT GGA GTT GTC CCA ATT CTT GTT 71 ATG AGT AAA GGA GAA GAA CTT TTC ACT GGA GTT GTC CCA ATT CTT GTT			
72 Met Ser Lys Gly Glu Glu Leu Fhe In 317			
73 1 5 THE TOTAL GIVE AGE GAG GAG	96		
75 GAA TTA GAT GGT GAT GTT AAT GGG CAC AAA 111 100 Val Ser Gly Glu			
76 Glu Leu Asp Gly Asp val Ash Gly Man 25 30			
77 20 TIG GOLDAN CTT ACC CTT AAA TTT ATT TGC	144		
79 GGT GAA GGT GAT GCA ACA TAC GGA AAA CIT ACC STATE OF S			
80 Gly Glu Gly Asp Ala Thi Tyl Gly 270 45	100		
81 35 CON MCC CCA ACA CTT GTC ACT ACT TTC	192		
83 ACT ACT GGA AAA CTA CCT GTT CCA 1GG CCA Non 544 84 Thr Thr Gly Lys Leu Pro Val Pro Trp Pro Thr Leu Val Thr Thr Phe 60			
84 Thr Thr Gly Lys new 175 155 60	240		
85 50 TAC CCA GAT CAT ATG AAA CGG	240		
on dear man Cly Val Gln Cys Phe Ser Arg 11 12 3 3 3 1			
88 Ser Tyr Gly val Gin Cyc Find To 75	288		
89 65 70 91 CAT GAC TTT TTC AAG AGT GCC ATG CCC GAA GGT TAT GTA CAG GAA AGA 91 CAT GAC TTT TTC AAG AGT GCC ATG CCC GAA GGT TAT GTA CAG GAA AGA			
on the Asp Phe Phe Lys Ser Ald Met Flo dia 3-1			
90 93 85 90 TAC AAG ACA CGT GCT GAA GTC	336		
93 95 ACT ATA TTT TTC AAA GAT GAC GGG AAC TAC AAG ACA CGT GCT GAA GTC			
os whr the phe Lys Asp Asp Gry Ash 11- 110			
97 100 105 ATC GAG TTA AAA GGT ATT	384		
97 100 103 99 AAG TTT GAA GGT GAT ACC CTT GTT AAT AGA ATC GAG TTA AAA GGT ATT 100 Lys Phe Glu Gly Asp Thr Leu Val Asn Arg Ile Glu Leu Lys Gly Ile			
100 Lys Phe Glu Gly Asp Thr Leu Val Ash Als 125			
101 115 ± 20			
101 115 CAT CCA AND ATT CTT GGA CAC AAA TTG GAA TAC AAC	432		
101 115 120 103 GAT TTT AAA GAA GAT GGA AAC ATT CTT GGA CAC AAA TTG GAA TAC AAC	432		
104 Asp Phe Lys Glu Asp Gly Ash Tie 200 007			
104 Asp Phe Lys Glu Asp Gly Ash 116 200 140 105 130 135 AMC AMC GCA GAC AAA CAA AAG AAT GGA	432		
104 Asp Phe Lys Glu Asp Gly Ash The Low 140 105 130 135 140 107 TAT AAC TCA CAC AAT GTA TAC ATC ATG GCA GAC AAA CAA AAG AAT GGA 107 TAT AAC TCA CAC AAT GTA TAC ATC ATG GCA GAC AAA CAA AAG AAT GGA 108 Asp Val Tyr Ile Met Ala Asp Lys Gln Lys Ash Gly			
104 Asp Phe Lys Glu Asp Gly Ash The Low 140 105 130 135 140 107 TAT AAC TCA CAC AAT GTA TAC ATC ATG GCA GAC AAA CAA AAG AAT GGA 108 Tyr Asn Ser His Asn Val Tyr Ile Met Ala Asp Lys Gln Lys Asn Gly 108 Tyr Asn Ser His Asn Val Tyr Ile Met Ala Asp Lys Gln Lys Asn Gly	480		
104 Asp Phe Lys Glu Asp Gly Ash 116 264 140 105 130 135 140 107 TAT AAC TCA CAC AAT GTA TAC ATC ATG GCA GAC AAA CAA AAG AAT GGA 108 Tyr Asn Ser His Asn Val Tyr Ile Met Ala Asp Lys Gln Lys Asn Gly 109 145 150 155 160			
104 Asp Phe Lys Glu Asp Gly Ash The Los 140 105 130 135 140 107 TAT AAC TCA CAC AAT GTA TAC ATC ATG GCA GAC AAA CAA AAG AAT GGA 108 Tyr Asn Ser His Asn Val Tyr Ile Met Ala Asp Lys Gln Lys Asn Gly 109 145 150 155 111 ATC AAA GTT AAC TTC AAA ATT AGA CAC AAC ATT GAA GAT GGA AGC GTT	480		
104 Asp Phe Lys Glu Asp Gly Ash The Local 140 105 130 135 140 107 TAT AAC TCA CAC AAT GTA TAC ATC ATG GCA GAC AAA CAA AAG AAT GGA 108 Tyr Asn Ser His Asn Val Tyr Ile Met Ala Asp Lys Gln Lys Asn Gly 109 145 150 155 160 111 ATC AAA GTT AAC TTC AAA ATT AGA CAC AAC ATT GAA GAT GGA AGC GTT 112 Ile Lys Val Asn Phe Lys Ile Arg His Asn Ile Glu Asp Gly Ser Val	480 528		
104 Asp Phe Lys Glu Asp Gly Ash The Los 140 105	480 528 576		
104 Asp Phe Lys Glu Asp Gly Ash The Los 140 105 130 135 140 107 TAT AAC TCA CAC AAT GTA TAC ATC ATG GCA GAC AAA CAA AAG AAT GGA 108 Tyr Asn Ser His Asn Val Tyr Ile Met Ala Asp Lys Gln Lys Asn Gly 109 145 150 155 160 111 ATC AAA GTT AAC TTC AAA ATT AGA CAC AAC ATT GAA GAT GGA AGC GTT 111 Lys Val Asn Phe Lys Ile Arg His Asn Ile Glu Asp Gly Ser Val 112 Ile Lys Val Asn Phe Lys Ile Arg His Asn Ile Glu Asp Gly Ser Val 113 165 170 175 114 CAA CTA GCA GAC CAT TAT CAA CAA AAT ACT CCA ATT GGC GAT GGC CCT	480 528 576		
104 Asp Phe Lys Glu Asp Gly Ash The Los 140 105	480 528 576		
104 Asp Phe Lys Glu Asp Gly Ash The Los 140 105 130 135 140 107 TAT AAC TCA CAC AAT GTA TAC ATC ATG GCA GAC AAA CAA AAG AAT GGA 108 Tyr Asn Ser His Asn Val Tyr Ile Met Ala Asp Lys Gln Lys Asn Gly 109 145 150 155 111 ATC AAA GTT AAC TTC AAA ATT AGA CAC AAC ATT GAA GAT GGA AGC GTT 111 ATC AAA GTT AAC TTC AAA ATT AGA CAC AAC ATT GAA GAT GGA AGC GTT 112 Ile Lys Val Asn Phe Lys Ile Arg His Asn Ile Glu Asp Gly Ser Val 113 165 170 175 1140 115 CAA CTA GCA GAC CAT TAT CAA CAA AAT ACT CCA ATT GGC GAT GGC CCT 116 Gln Leu Ala Asp His Tyr Gln Gln Asn Thr Pro Ile Gly Asp Gly Pro 117 180 185 190	480 528 576 624		
104 Asp Phe Lys Glu Asp Gly Ash The Los 140 105	480 528 576 624		
104 Asp Phe Lys Glu Asp Gly Ash The Los 140 105 130 135 140 107 TAT AAC TCA CAC AAT GTA TAC ATC ATG GCA GAC AAA CAA AAG AAT GGA 108 Tyr Asn Ser His Asn Val Tyr Ile Met Ala Asp Lys Gln Lys Asn Gly 109 145 150 155 160 111 ATC AAA GTT AAC TTC AAA ATT AGA CAC AAC ATT GAA GAT GGA AGC GTT 111 ATC AAA GTT AAC TTC AAA ATT AGA CAC AAC ATT GAA GAT GGA AGC GTT 112 Ile Lys Val Asn Phe Lys Ile Arg His Asn Ile Glu Asp Gly Ser Val 113 170 175 115 CAA CTA GCA GAC CAT TAT CAA CAA AAT ACT CCA ATT GGC GAT GGC CCT 116 Gln Leu Ala Asp His Tyr Gln Gln Asn Thr Pro Ile Gly Asp Gly Pro 117 180 185 190 118 180 200 205 120 Val Leu Leu Pro Asp Asn His Tyr Leu Ser Thr Gln Ser Ala Leu Ser 120 Val Leu Leu Pro Asp Asn His Tyr Leu Ser Thr Gln Ser Ala Leu Ser 121 125 200 200	480 528 576 624		
104 Asp Phe Lys Glu Asp Gly Ash The Los 140 105 130 135 140 107 TAT AAC TCA CAC AAT GTA TAC ATC ATG GCA GAC AAA CAA AAG AAT GGA 108 Tyr Asn Ser His Asn Val Tyr Ile Met Ala Asp Lys Gln Lys Asn Gly 109 145 150 155 160 111 ATC AAA GTT AAC TTC AAA ATT AGA CAC AAC ATT GAA GAT GGA AGC GTT 111 ATC AAA GTT AAC TTC AAA ATT AGA CAC AAC ATT GAA GAT GGA AGC GTT 112 Ile Lys Val Asn Phe Lys Ile Arg His Asn Ile Glu Asp Gly Ser Val 113 170 175 115 CAA CTA GCA GAC CAT TAT CAA CAA AAT ACT CCA ATT GGC GAT GGC CCT 116 Gln Leu Ala Asp His Tyr Gln Gln Asn Thr Pro Ile Gly Asp Gly Pro 117 180 185 190 118 180 200 205 120 Val Leu Leu Pro Asp Asn His Tyr Leu Ser Thr Gln Ser Ala Leu Ser 120 Val Leu Leu Pro Asp Asn His Tyr Leu Ser Thr Gln Ser Ala Leu Ser 121 125 200 200	480 528 576 624		
104 Asp Phe Lys Glu Asp Gly Ash The Load 135 130 135 137 138 140 107 137 138 139 140 108 177 174 174 175 180 177 177 178 179 170 175 170 175 175 176 177 178 179 170 175 170 175 176 177 178 179 170 175 170 175 176 177 178 179 170 175 170 175 176 177 178 179 170 175 170 175 177 178 179 170 175 170 175 177 178 179 170 175 170 175 177 178 179 170 175 170 175 177 178 179 170 175 170 177 178 179 170 177 175 170 177 178 179 170 175 170 177 178 179 170 177 180 180 185 185 185 190 187 190 187 190 187 190 187 190 187 190 187 190 180 187 180 185 185 190 190 187 190 187 190 187 190 190 190 190 191 190 190 19	480 528 576 624 672		
104 Asp Phe Lys Glu Asp Gly Ash The Bot 140 105 130 135 107 TAT AAC TCA CAC AAT GTA TAC ATC ATG GCA GAC AAA CAA AAG AAT GGA 108 Tyr Asn Ser His Asn Val Tyr Ile Met Ala Asp Lys Gln Lys Asn Gly 109 145 150 155 160 111 ATC AAA GTT AAC TTC AAA ATT AGA CAC AAC ATT GAA GAT GGA AGC GTT 112 Ile Lys Val Asn Phe Lys Ile Arg His Asn Ile Glu Asp Gly Ser Val 113 165 115 CAA CTA GCA GAC CAT TAT CAA CAA AAT ACT CCA ATT GGC GAT GGC CCT 116 Gln Leu Ala Asp His Tyr Gln Gln Asn Thr Pro Ile Gly Asp Gly Pro 180 185 190 117 180 185 190 1180 185 190 120 Val Leu Leu Pro Asp Asn His Tyr Leu Ser Thr Gln Ser Ala Leu Ser 120 Val Leu Leu Pro Asp Asn His Tyr Leu Ser Thr Gln Ser Ala Leu Ser 121 195 200 122 205 125 210 220 220	480 528 576 624		
104 Asp Phe Lys Glu Asp Gly Ash The Los 130	480 528 576 624 672		

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DATE: 01/18/2002 TIME: 09:16:35

Input Set : N:\Crf3\RULE60\10024686.raw Output Set: N:\CRF3\01182002\J024686.raw

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235
129 225
132 (2) INFORMATION FOR SEQ ID NO: 2:
         (i) SEQUENCE CHARACTERISTICS:
134
              (A) LENGTH: 238 amino acids
135
              (B) TYPE: amino acid
136
              (D) TOPOLOGY: linear
137
        (ii) MOLECULE TYPE: protein
139
         (V) FRAGMENT TYPE: internal
141
        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 2:
     Met Ser Lys Gly Glu Glu Leu Phe Thr Gly Val Val Pro Ile Leu Val
143
145
                                           10
     Glu Leu Asp Gly Asp Val Asn Gly His Lys Phe Ser Val Ser Gly Glu
146
147
                                       25
     Gly Glu Gly Asp Ala Thr Tyr Gly Lys Leu Thr Leu Lys Phe Ile Cys
148
149
                                   40
     Thr Thr Gly Lys Leu Pro Val Pro Trp Pro Thr Leu Val Thr Thr Phe
150
151
                               55
     Ser Tyr Gly Val Gln Cys Phe Ser Arg Tyr Pro Asp His Met Lys Arg
152
 153
                           70
      His Asp Phe Phe Lys Ser Ala Met Pro Glu Gly Tyr Val Gln Glu Arg
 154
 155
                       85
      Thr Ile Phe Phe Lys Asp Asp Gly Asn Tyr Lys Thr Arg Ala Glu Val
 156
 157
                                       105
      Lys Phe Glu Gly Asp Thr Leu Val Asn Arg Ile Glu Leu Lys Gly Ile
 158
 159
                                   120
      Asp Phe Lys Glu Asp Gly Asn Ile Leu Gly His Lys Leu Glu Tyr Asn
 160
 161
                               135
      Tyr Asn Ser His Asn Val Tyr Ile Met Ala Asp Lys Gln Lys Asn Gly
 162
 163
                                               155
                           150
      Ile Lys Val Asn Phe Lys Ile Arg His Asn Ile Glu Asp Gly Ser Val
 165
                                           170
      Gln Leu Ala Asp His Tyr Gln Gln Asn Thr Pro Ile Gly Asp Gly Pro
 166
 167
                                       185
      Val Leu Leu Pro Asp Asn His Tyr Leu Ser Thr Gln Ser Ala Leu Ser
 168
 169
                                   200
      Lys Asp Pro Asn Glu Lys Arg Asp His Met Val Leu Leu Glu Phe Val
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  171
                               215
       Thr Ala Ala Gly Ile Thr His Gly Met Asp Glu Leu Tyr Lys
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  173
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  174 225
  177 (2) INFORMATION FOR SEQ ID NO: 3:
           (i) SEQUENCE CHARACTERISTICS:
  179
                (A) LENGTH: 22 base pairs
  180
                (B) TYPE: nucleic acid
  181
                (C) STRANDEDNESS: single
  182
                 (D) TOPOLOGY: linear
  183
          (ii) MOLECULE TYPE: cDNA
  185
          (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 3:
  187
  189 GGATCCCCCC GCTGAATTCA TG
  192 (2) INFORMATION FOR SEQ ID NO: 4:
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VERIFICATION SUMMARY

PATENT APPLICATION: US/10/024,686

DATE: 01/18/2002

TIME: 09:16:36

Input Set : N:\Crf3\RULE60\10024686.raw
Output Set: N:\CRF3\01182002\J024686.raw

L:27 M:220 C: Keyword misspelled or invalid format, [(A) APPLICATION NUMBER:] L:28 M:220 C: Keyword misspelled or invalid format, [(B) FILING DATE:]



Creation date: 09-12-2003

Indexing Officer: MJOHNSON - MOZELLE JOHNSON

Team: OIPEBackFileIndexing

Dossier: 10024686

Legal Date: 06-04-2002

N. D. coods	Number of pages	
No.	Doccode	2
1	IC.AD	

Total number of pages: 2

Remarks:

Order of re-scan issued on